

Remarks/Arguments:

By this amendment the specification and claims 1 and 2 are amended, and claims 9 and 10 are presented. Claims 1-10 are before the examiner. All claims stand rejected solely under 35 USC §103(a) as obvious over Parlar (US 6631764) in view of Fischer (US 3753903). Further examination of the application as amended and reconsideration of the rejection are respectfully requested.

Applicants declare the amendments do not introduce new matter. The amendment to paragraph [0008] makes more explicit the issues regarding selection of the emulsifier already noted in the specification. The amendments to paragraphs [0024], [0025] and [0029] correct a typographical error (sodium obviously should have been sorbitan), clarify the monomer vs. monoalkylester type terminology, and explicitly note the mixture of sorbitan fatty acid esters readily apparent from the chromatograms, e.g. Figure 1.

The amendment to claim 1 re-orders the listing of the recited steps and affirmatively recites GPC analysis and emulsifier selection based on the shoulder peak as steps in the claimed process. Claim 2 is amended to recite that the monooleate species is present, whereas claims 9 and 10 specify the sorbitan fatty acid ester comprises a mixture of species.

Applicant readily concedes that gravel pack compositions have been used which contain fatty acid esters as in Parlar, and that sorbitans are well known fatty acid ester emulsifiers as in Fischer. However, the putative rejection for obviousness overlooks the fact that commercial sorbitan fatty acid esters generally comprise a mixture of compounds obtained by reacting sorbitan with fatty acids, often under uncontrolled conditions using different catalysts, fatty acids, etc. Commercially obtained sorbitan fatty acid esters rarely have the exact same compositions, often even when the material is obtained from the same source.

The predicament of those such as applicant who want to use a commercial sorbitan fatty acid ester is to use only those that work well to stabilize invert brine-oil emulsions for gravel packing, and avoid the ones that work poorly, resulting in unusable gravel packing fluids and/or unsuccessful gravel packing attempts.

Applicant discovered that the suitability of a particular sorbitan fatty acid ester for stabilizing gravel pack invert emulsions correlated to the presence of a shoulder near the

monomer peak. See the specification at [0023] though [0029]. Indeed, the stability of the emulsion was proportional to the height of the peak. See [0027] where a sorbitan with a weak monomer shoulder peak could be used at higher concentrations, but not at a lower one.

Parlar and Fischer do not suggest using GPC to screen and select sorbitan fatty acid esters for their suitability in stabilizing invert brine-oil emulsions in gravel packing. Clearly, the cited references do not suggest the surprising results of applicant. With applicant's method, the sorbitan fatty acid ester can be used with reduced risk of failure on the basis of a GPC analysis, rather than the cumbersome method of preparing test emulsions and observing the long term settling characteristics as described in [0027]. A prima facie rejection for obviousness cannot be made out from any combination of these references.

Applicants believe the claims are in condition for allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephone interview, Applicants invite the Examiner to contact the undersigned at 281-285-8606. The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account No. 04-1579 (56.0773).

Respectfully submitted,



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Date: Feb 25, 2008
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